

REMARKS

Specification. The Applicant has amended the specification herein to correct typographical errors. No new matter was introduced by the amendment of the specification herein.

Drawings. In the Non-Final Office Action, Examiner Lammare objected to the drawings because the numerical labeling did not convey adequate information to allow understanding of what is depicted without direct reference to the disclosure. The Applicant respectfully traverses this objection to the drawings because the Applicant is unaware of any law or any regulation that require a drawing to convey information that would allow an understanding of what is depicted without any direct reference to the disclosure. However, to advance the present application towards issuance, the Applicant is concurrently filing a Replacement Drawing Sheet 1/1 that includes name labels of various components of the present application and a withdrawal of the objection to the drawings is respectfully requested. Nonetheless, the Applicant is reserving the right to withdraw the Replacement Drawing Sheet 1/1 without any further showing of a law or a regulation requiring a drawing to convey information that would allow an understanding of what is depicted without any direct reference to the disclosure.

Claims. In the Non-Final Office Action, Examiner Lammare objected to and rejected pending claims 1-10 on various grounds. The Applicant responds to each objection and rejection as subsequently recited herein, and respectfully requests reconsideration and further examination of the present application under 37 CFR § 1.112:

- A. Examiner Lammare objected to claims 1-10 for reciting bracketed information that is not given any patentable weight

The Applicant has amended claims 1-10 to remove the bracketed information.
Withdrawal of the objection of claims 1-10 is therefore respectfully requested.

- B.** Examiner Lammare rejected claims 1-10 under 35 U.S.C. §§102(b)/102(e) as being anticipated by an article entitled “List and Soft Symbol Output Viterbi Algorithms: Extensions and Comparisons” to *Nill* et al.

The Applicant has thoroughly considered Examiner Lammare’s remarks concerning the patentability of claims 1-10 over *Nill*. The Applicant has also thoroughly read *Nill*. To warrant this §§102(b)/102(e) rejection of claims 1-10, *Nill* must show each and every limitation of independent claims 1, and 8-10 in as complete detail as is contained in independent claims 1 and 8-10. See, MPEP §2131. The Applicant respectfully traverses this §§102(b)/102(e) rejection of independent claims 1 and 8-10, because, among other things, *Nill* fails to show “wherein said processor system combines cost signals for series of branches and compares cumulated cost with thresholds for said selecting of candidates” in as complete detail as recited in independent claims 1 and 8; “wherein said method comprises the steps of combining cost signals for series of branches and comparing cumulated cost with thresholds for said selecting of candidates” in as complete detail as recited in independent claim 9; and “wherein said processor program product comprises the functions of combining cost signals for series of branches and comparing cumulated cost with thresholds for said selecting of candidates” in as complete detail as recited in independent claim 10.

Specifically, as stated in the subject application at page 7, lines 5-33, a proper understanding of *Nill* reveals the fact that *Nill* teaches “in addition to the generation of branch signals defining branches of a trellis (in said article [*Nill*], branch signals are called metrics) and the generation of node signals defining nodes of said trellis (in said article [*Nill*], nodes are called states and node signals for example correspond to cumulative metrics), the generation of cost signals defining cost per branch (in said article [*Nill*], said cost corresponds to Δ being the absolute difference between certain cumulative metrics or between certain cumulated metrics) and the generation of path signals defining paths in said trellis for selecting a list of candidates

for said block signal. Such a list of candidates (comprising the Viterbi survivor plus some other likely candidates) improves the chance of finding the right candidate (improved decoding gain).

In said article [Nill], Sundberg presents a List Viterbi Algorithm (LVA), that successively produces the i -th, $i = 1, 2, 3, \dots, L$, most likely candidate. First, the $i = 1$ most likely candidate is produced, which corresponds to the Viterbi path or the maximum likelihood path. The second most likely path ($i = 2$) is then produced next by searching along the Viterbi path which node on the Viterbi path has a minimal absolute Δ . This Δ corresponds to an excursion from the Viterbi path for which the sum of the branch signals over the excursion has a minimal difference from the corresponding part of the Viterbi path. Next, the candidate (path) for which the sum of the branch signals gives the third highest (log)likelihood (sum of branch signals) value (when sorted in decreasing order) is searched for by finding the minimum Δ along the paths that gave the second highest (log)likelihood (sum of branch signals), etc.

So, according to said article [Nill], the minimum absolute difference Δ_{\min} of a large number of absolute differences Δ per candidate for creating said list of candidates must be found. This search is complex and time-consuming and requires large storage capacity, which can increase proportionally to the number of candidates that is generated.”

Thus, as stated in the subject application at page 8, lines 8-15, the present invention “[B]y combining cost signals for series of branches and comparing cumulated cost with thresholds, compared to said prior art article [Nill], said selecting of candidates is now done completely differently: while searching for said further paths, a search for a further path (comprising series of branches) is made as long as the cumulated cost does not exceed and/or are equal to a threshold. When the cost exceeds and/or is equal to a threshold, said search is stopped and a search for one or more yet further paths is started. As a result, a list of candidates can be found, just as in said prior art article [Nill], but without requiring large storage capacity.”

Withdrawal of the rejection of independent claims 1 and 8-10 under 35 U.S.C. §102(b)/102(3) as being anticipated by Nill is therefore respectfully requested.

Claims 2-7 depend from independent claim 1. Therefore, dependent claims 2-7 include all of the elements and limitations of independent claim 1. It is therefore respectfully

submitted by the Applicant that dependent claims 2-7 are allowable over *Nill* for at least the same reason as set forth herein with respect to independent claim 1 being allowable over *Nill*. Withdrawal of the rejection of dependent claims 2-7 under 35 U.S.C. §§102(b)/102(e) as being anticipated by *Nill* is therefore respectfully requested.

SUMMARY

The Applicant respectfully submits that claims 1-10 fully satisfy the requirements of 35 U.S.C. §§102, 103 and 112. In view of the foregoing, favorable consideration and early passage to issue of the present application is respectfully requested. If any points remain in issue that may best be resolved through a personal or telephonic interview, Examiner Lammare is respectfully requested to contact the undersigned at the telephone number listed below.

Dated: **August 21, 2006**

Respectfully submitted,
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